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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

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REPLY TO THE ATTENTION OF:

DATE: NOV 08 1988

QAS Log-In #729

SUBJECT: Review of the Initial Draft Quality Assurance Project Plan of the RI/FS for the American Chemical Services (Griffith, IN) PRP-Lead Site

FROM: James Adams Jr, Chief
Quality Assurance Section

TO: ~~Donald Bruce~~ Jim Mayka, Chief
Illinois/Indiana Section

ATTENTION: Karen Waldvogel

The Quality Assurance Section has reviewed the subject draft QAPP received on October 13, 1988. The initial draft QAPP is unapprovable until the comments listed below are incorporated.

All comments are listed under the QAPP section/page numbers:

TITLE PAGE

a) The site location(Griffith, Indiana) should be listed below "American Chemical Services, Inc." in the title.
b) Replace "Representative PRP Steering Committee" with "American Chemical Services Steering Committee _____" where the blank space is the title of the representative (i.e. chairman).
c) Replace "EPA" in the bottom two signature spaces with "US EPA".

1.0 INTRODUCTION

This section should be deleted and incorporated into the Introduction of Section 3.0 Project Description.

2.0 TABLE OF CONTENTS

The Table of Contents will need to be appropriately modified to reflect changes required by the comments below.

3.0 PROJECT DESCRIPTION

The Project Description needs to be clearly separated into subsections including Introduction, Site Description, Site History, Target Compounds, Project Objectives, Sample Network & Rationale, and Project Schedule.

a) The Introduction may incorporate present QAPP sections 1.0 and 3.0 (page 7, paragraph 1). It should be further expanded to include a brief identification of the proposed phases of the RI/FS.
b) The Site Description should include most of present QAPP section 3.1 .
c) The Site History should provide a brief history of the site including events leading to its NPL designation. The "American Chemical Services Initial Site Evaluation Report" may be additionally referenced and attached. The history should also include a definition of the "American Chemical Services Steering Committee".
d) A Target Compounds subsection should discuss what analytical parameters and detection limits are required for the RI/FS. The analyte lists (i.e. Appendix B) should be referenced.
e) Project Objectives should clearly and separately discuss: specific objectives, intended data usages, and data quality objectives. Section 3.2 items such as developing,evaluating, and screening Remedial Action alternatives are data uses which will result from the RI/FS.
f) Sample Network & Rationale should be a separate subsection referencing site maps/diagrams of sampling locations, rationale behind selection of sampling points, and tables listing matrices, parameters, and frequency phase by phase.

The Project Description needs to clearly demonstrate that the QAPP will likely require written addenda for Phases II and III. This is necessary since Phase I may yield data that may require other analytical methods or sampling be performed to "focus" RI/FS efforts in subsequent phases than initially planned. The QAPP should concentrate on Phase I and present the logic for planning subsequent phases including decision making processes. Activities in the present Phase II which are not contingent upon results of Phase I should be combined into a new Phase I.

Additional comments on the information presented in the present Project Description include:

3.1 Background. Page 7, 1st paragraph.
a) Clarify if the Griffith Landfill is a municipal landfill.
b) State the number of acres of the 31 Landfill acres encompass the "inactive" portion.

3.1 Page 7, last paragraph.
Analytical results referenced and tabulated in Table 1-3 should clearly distinguish between data generated through the USEPA (and its contractors) and the PRP.

3.3 Specific Project Subtasks and Activities.
a) The activities and subtasks should provide rationalization for selection of sampling locations and the associated analyses. If the Work Plan and/or Sampling Plan can provide the details, appropriate sections and page #'s of these documents may be referenced. The Work Plan should be an attachment to the QAPP in any event.

b) Some activities and subtasks are deleted from the QAPP but present in the Work Plan. These include: 1A Review Available Information, 1E Environmental Audit of ACS, and 1F Establish Remedial Alternatives. The reasoning behing their deletion in the QAPP should be further discussed.
c) The interaction between activities and subtasks within Phase I and flow between phases should be clear. The activities and subtasks should be related to project objectives and decision points highlighted.

3.4 Schedule.
The referenced Figure 3 and Section 16.0 (comments detailed below) should include interim reports at the end of Phase I as well as preparation of QAPP addenda for Phase II and beyond.

4.0 PROJECT ORGANIZATION AND RESPONSIBILITY.
4.4 Specialized Responsibilities...
Remove both references under Hazleton and Warzyn Data for "Review and approval of performing laboratory..." since this is addressed under section 4.6.

4.5 Quality Assurance.
Change Review of QAPP responsibility to " - U.S. EPA Region V Quality Assurance Section(MQAB) and Central Regional Laboratory". "CPMS" is deleted to reflect a reorganizational change.

4.6 Performance and Systems Audits.
Change Analytical Laboratories' responsibility to " - U.S. EPA Region V Central Regional Laboratory". Ditto above comment.

Figure 4 which is referenced should include all parties listed in Section 4.0 and vice versa. Figure 4 should specify the analytical laboratories and perhaps separate Warzyn into its own organizational chart since it is involved in several different activities. It is important that the chart clearly reflect the hierarchy of responsibilities and the flow between levels.

5.0 QUALITY ASSURANCE OBJECTIVES.
5.1.2 Laboratory Analyses.
a) How will leachate, groundwater, and soil samples for Target Analyte List[TAL -not TCL(which refers to CLP RAS Target Compound List organic parameters)] inorganic parameters be analyzed? Conflicting information from QAPP section 9.0 and Appendix D indicate either CLP SOW 787 or Warzyn's own Standard Operating Procedures(SOPs). Which shall it be?
b) Section 5.1.2 may be better separated by laboratory, analytical responsibilities of each laboratory(analysis type/matrix) and the methods/QC effort associated with each analysis.
c) The information in the second paragraph should clearly indicate that the private water supply analyses will use the CLP RAS TCL(organics) and TAL(inorganics) parameters but with lower than CLP RAS Contract Required Quantitation/Detection Limits.

d) Appendix D is missing the referenced inorganic SOPs for the low private well analyses.

5.1.3 Field Measurements
a) Geophysical Measurements.
These should be clearly stated or referenced (i.e. what do the measurements consist of? What SOPs will be used?).
b) Air Monitoring.
For what purpose(s) will air monitoring measurements be used? If the purpose is for field samplers' health & safety, this must be noted. If the purpose is for selecting/not selecting sampling points and/or analytical data for the RI/FS, this must be further expanded in other QAPP sections. Please explain since this is not addressed elsewhere.

5.2 Accuracy, Precision, and Sensitivity of Analysis.
a) Prepare a summary table of acceptable accuracy, precision, and sensitivity for each analytical method(lab or field) and associated parameters.
b) What types of measurements will be used to assess the organic and inorganic analyses (i.e. field duplicates, matrix spike replicates)? Reference the reader to QAPP section 14.0 which highlights calculations of accuracy, precision, and completeness.
c) Provide a definition of these three data measurements.

5.3 Completeness, Representativeness and Comparability.
a) Define these three measurements. Reference calculations in QAPP section 14.0.
b) What are acceptable limits for representativeness and comparability?

6.0 SAMPLING PROCEDURES.
Comments on sampling procedures will be addressed under the Appendix A (Sampling Plan) below.

7.0 SAMPLE CUSTODY AND DOCUMENTATION.
a) The QAPP should include Warzyn's chain-of-custody SOPs for field and laboratory.
b) The referenced Appendix I appears to be a site specific(Fadrowski) final evidence file. Warzyn's SOP as related to this site or their generic SOP(if applicable) should be inserted into Appendix I. Appendix I indicates that the evidience file will be maintained by Warzyn until the ROD is issued. The USEPA Region V RPM should be advised prior to final disposition.
c) Unused samples or sample extracts should not be disposed without prior advisement to the USEPA RPM.

8.0 CALIBRATION PROCEDURES AND FREQUENCY.
a) Separate this section into subsections on field versus laboratory analyses and separate the laboratory analyses by each laboratory.
b) What intstruments will be used for the geophysical survey and what SOP will used for the calibration?

9.0 ANALYTICAL SERVICES.
Specific comments on SOPs will be found under Appendices C/D below.

11.0 DATA REDUCTION, VALIDATION AND REPORTING.
a) Internal laboratory data reduction needs to be further defined including data transfer procedures from analyst to final release to external data reviewer/user.
b) Data validation by Warzyn should be detailed for non-CLP RAS organic/inorganic analyses. A data validation SOP attachment would be preferred.
c) Data deliverables must be specifically stated for each type of analysis. The CLP RAS organic SOW deliverables is directly applicable to the analyses for leachate, groundwater, and soil. Will the same data package be used with modifications for the private well organic analyses?

The data deliverables are not stated in the methods for inorganics and other parameters as the the 4th paragraph of the section indicates. The data package must recreate the analysis on paper. A list of what will be reported for each analysis type and examples of reporting forms should be included.

12.0 PERFORMANCE AND SYSTEMS AUDITS.
a) Audits should be separated as external and internal and further broken down as field and laboratory. Descriptions of internal audits should be more detailed.
b) External audits may be conducted in the field by the USEPA Region V RPM and/or oversight contractor. Laboratories may be subject to performance and systems audits by USEPA Region V Central Regional Laboratory(not CPMS as noted previously).
c) Internal audits for field activities should be performed by the site manager and/or QA officer. Who is responsible for conducting internal laboratory audits? How and to whom will internal audits be reported? The USEPA Region V RPM should be in the communication loop.

14.0 SPECIFIC ROUTINE PROCEDURES USED TO ASSESS DATA PRECISION, ACCURACY AND COMPLETENESS.
Specify how completeness is quantitatively calculated.

15.0 CORRECTIVE ACTION.
The USEPA Region V RPM must be in the communication loop if any reanalysis/resampling is required. If delays or less than 95% completeness(including estimated or unusable data) are determined, it must be transmitted to the USEPA RPM. Specify how and when this would be communicated.

16.0 QUALITY ASSURANCE REPORTS TO MANAGEMENT.
Since this RI/FS is a phased study, it would be more appropriate to prepare QA reports at the end of each phase. If problems develope during a phase QA reports should be more frequent. The focus of subsequent phases needs to be determined as well as preparation of QAPP addenda.

These QA reports should address project status, performance/systems audits conducted during the RI/FS phase, data quality assessment, QA problems with proposed corrective action, and as noted, QAPP changes.

TABLES.

a) Tables 1-3. See above comments.
b) Tables 4/5.
   i) The Study Phase column is difficult to follow. For example, 2A and 2B were not previosly defined. Sampling charts should be separated by phase.
   ii) Footnote 5 indicates that the Hnu/OVA will be used to qualitatively screen solid samples. This activity needs to be further described in the Sampling Plan.
c) Table 6.
   i) Additional sample may be required to be collected for private well organic analyses to achieve the low(less than CLP RAS organic CRQLs) detection limits.
   ii) Acidification of volatiles is unnecessary if samples will analyzed within 7 days.

FIGURES.

a) Figure 4(Project Organizatio Chart) was previously addressed. The only additional comments are to change the box for "Quality Assurance Office - C. Tsai" to "Quality Assurance Section/MQAB"

APPENDICES.

APPENDIX A: Sampling Plan.
Section 3.0 Sampling Locations and Number of Samples.

a) The Sampling Plan is difficult to follow since both the Work Plan and QAPP (i.e. scetion 3.0 Project Description) addressed the RI/FS in terms of phases, activities, and subtasks. Logically address this section in the same fashion for continuity and clarity.
b) The guidelines/logic for sampling point selection for each sampling matrix should be clearly stated or referenced to the appropriate section/page # of the Work Plan (as applicable). Note what analytical parameters will be required at these sampling points.
c) Terms used in the text versus Figures 1-4 should be consistent in naming sampling points. For example, section 3.1.1 describes 6 "perimeter wells". Are these the same as Figure 1 which notates as "Monitoring Wells Proposed Phase I"? Each subsection of 3.0 and Figures 1-4 should be examined for similiar inconsistencies.

Section 5.0 Sampling Equipment & Procedures.
5.1.1 Monitoring Wells, page 9, last paragraph.
As indicated earlier in this review, volatile samples will not require chemical preservation if analyzed within 7 days.

5.5,5.7, and 5.8.
These soil sampling sections indicate that the Hnu (or OVA) and/or visual contamination will be the basis for sample selection within each sampling area. the logic of sample location selection specific to this site must be fully described. Simply referencing the operational manuals in Appendices G & H is insufficient.

8.0 Sample Documentation.
Sample locations should be documented in more detail than using photographs.Locations should be physically marked and location described in a logbook and related to immovable objects and/or surveyors points.

Additional Sampling Plan Comments.

a) The Sampling Plan needs to address how sample bottles are decontaminated and verified as free of contaminants on a lot by lot basis. If bottles are prepared and provided by the sampling contractor, the SOP must be included in the QAPP.

b) Sampling Plan Tables should address similiar comments for QAPP Tables. Table #'s may differ between the the QAPP and Sampling Plan but are identical tables.

APPENDICES C/D.
The following comments are noted in addition to previous Appendix C or D comments stated earlier:

a) The methods will require evaluation by the USEPA Region V Central Regional Laboratory for applicability to this site. This was discussed prior to this review with the site RPM.

b) As noted earlier, Appendix D is missing Warzyn's inorganic methods for private well analysis. Appendix D inorganic methods appear to be more applicable to CLP RAS inorganic detection levels and also for water matrices only. CLP RAS inorganic level soil matrices need to be addressed in the methods.

cc: K. Bolger, QAS/ESD
C.W. Tsai, QAS/ESD
K. Chiu, WMD